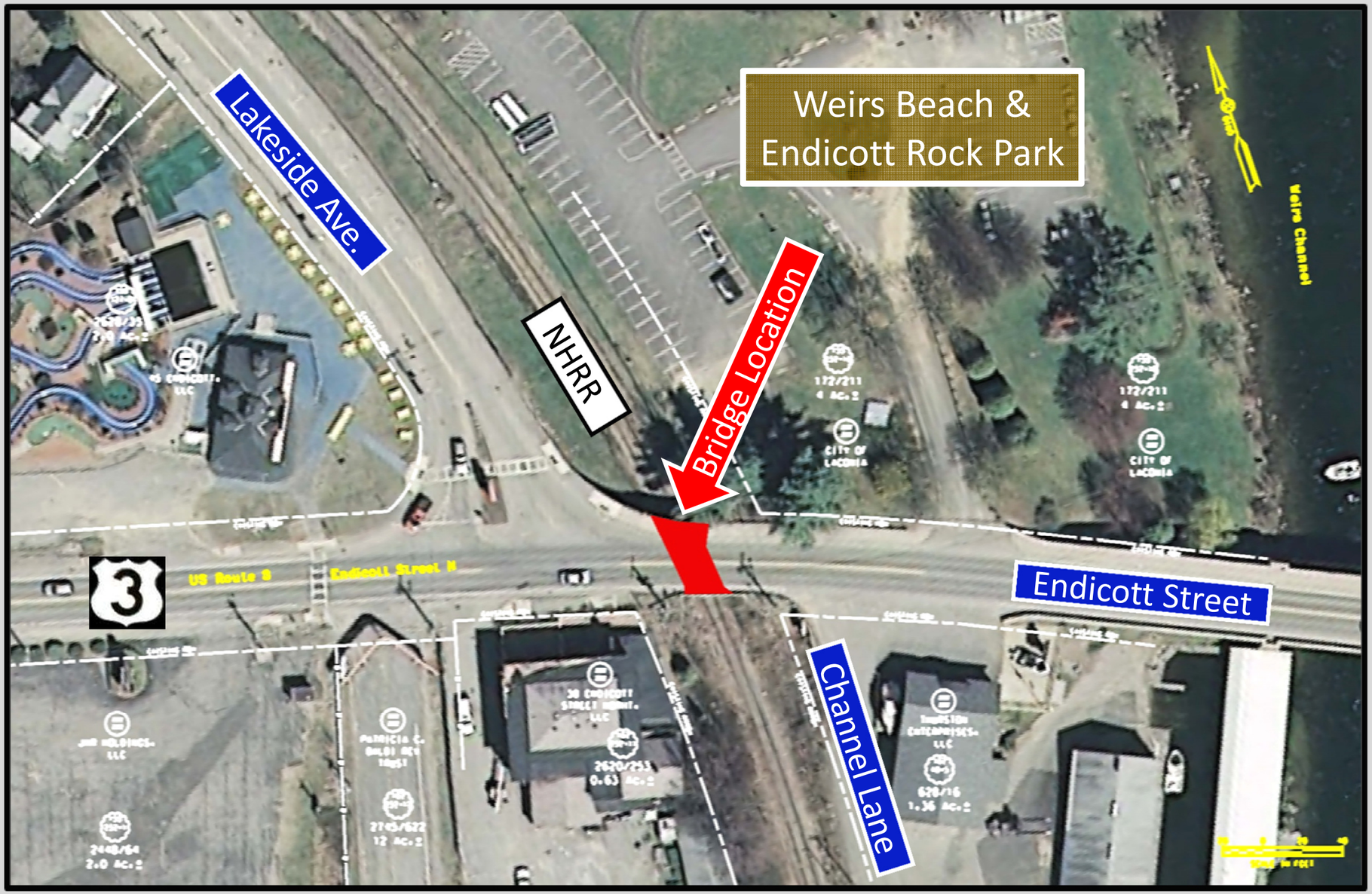
Laconia 16144

US Route 3 over New Hampshire Railroad (Br. No. 131/154)

Public Informational Meeting

June 23, 2015

Project Location Map



Site Photos

Looking North

Looking South

Site Photos

East Abutment

West Abutment

Site Photos

Retaining Wall – From Above

Retaining Wall – From Below

Site Photos

Looking West up Endicott Street (US Route 3)

Site Photos

Intersection of Lakeside Avenue w/ US 3

Lakeside Avenue Looking South
to Intersection with US 3

Site Photos

Looking South down Channel Lane from US 3

Intersection of Channel Lane with US 3

Site Photos

Weirs Beach & Endicott Rock Park

Weirs Beach & Endicott Rock Park Entrance

Existing Bridge Facts

- Bridge was put on the State's Red List in 2009, #40 on the 2015 Bridge Priority List
- Federal Sufficiency Rating (FSR) of 32.7 out of 100
- Carries Approximately 13,000 Vehicles per day in 2011 (5% trucks) , Posted speed 30 mph,
  - April last month before traffic significantly increases
- Rail service May to November

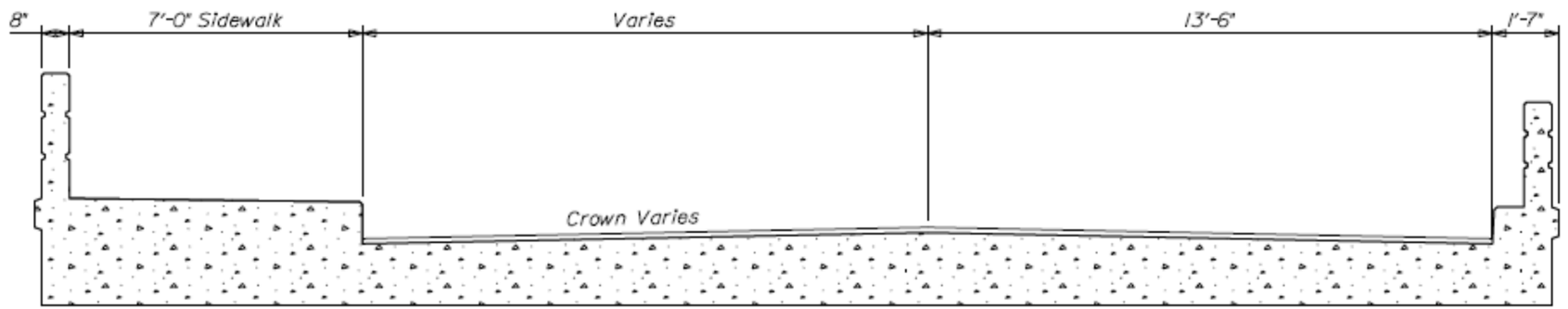
Superstructure

- Is a Cast-In-Place (CIP) Concrete Slab constructed in 1933
- It's a 23' to 32 ' long single span which carries US Route 3 over NHRR
- The narrowest roadway width is 27 ' between curbs, 7' wide sidewalk along the north side of the bridge
- The railroad vertical clearance is 17.5 ' from top of rail to bottom of slab

Substructure

- Is primarily made up of split granite block abutments, built prior to 1933
  (there are no existing records of their construction)
- In 1933 the abutments were widened with mass concrete along with a wingwall along Lakeside Ave.

Existing Bridge Details



Existing Superstructure
N.T.S.

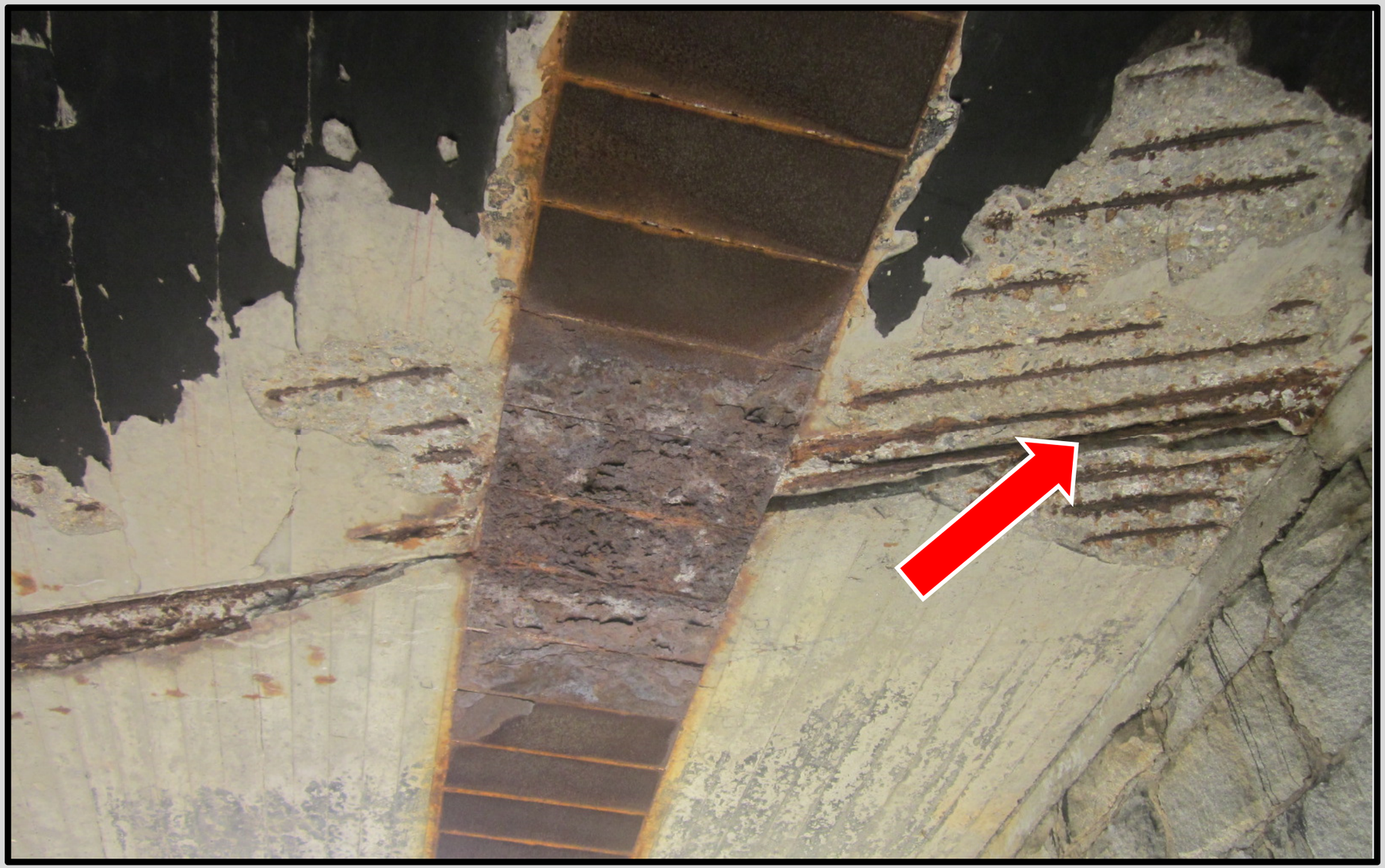
Cast-In-Place Concrete Deck

Superstructure Section

Existing Bridge Facts

Components

Inspection Photos



Underside of Bridge Deck – Exposed Reinforcement

Inspection Photos

East Abutment

Mortared Joints in Disrepair, Stone Stable With No Signs of Shifting

Inspection Photos

Retaining Wall – Cracking

Summary of Inspection

Based on Visual Inspection and Material Testing:

- **Superstructure:** Poor condition, needs Replacement
- **Abutments:** Fair Condition, can be Rehabilitated
- **Wingwalls:** Fair Condition, can be Rehabilitated

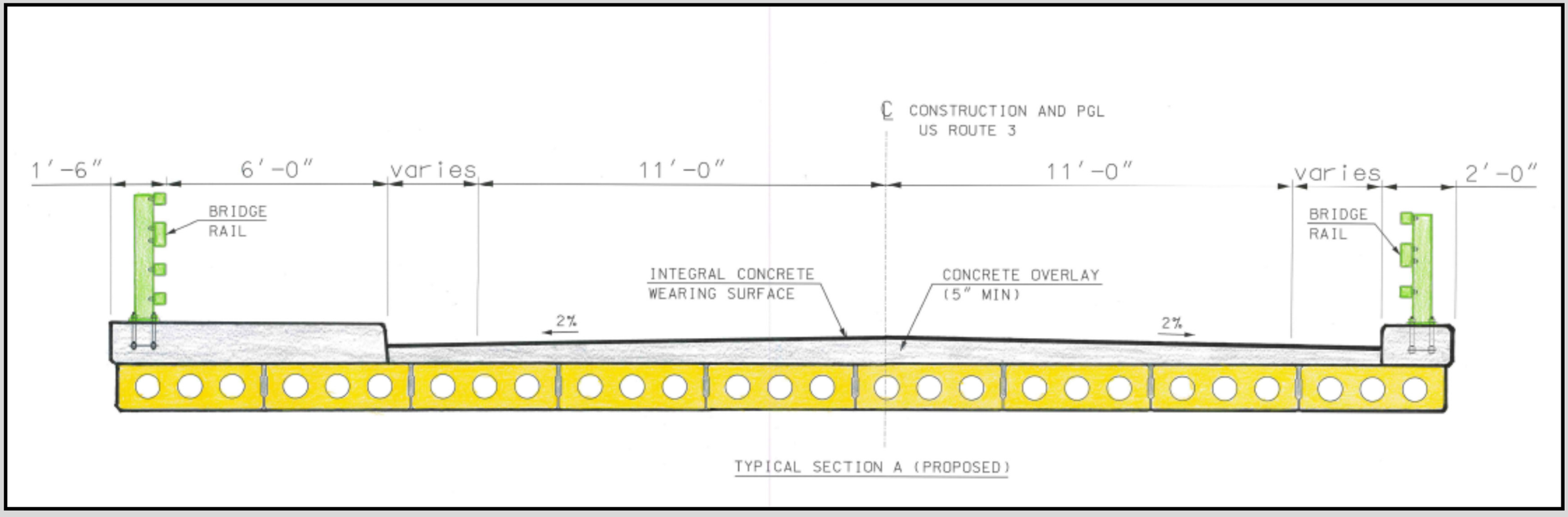
Design Considerations

- Narrow roadway shoulders over bridge (not easily widened without increasing bridge width)
- Line of sight & obstructions (concrete rail)
- Many Utilities (move prior to construction)
- Close proximity to intersections
  - Lakeside Avenue
  - Channel Lane
  - Endicott Rock Park Drive
- Located in Tourist Area
  - Weirs Beach
  - Other Attractions
- NHRR with 17.5 ’ clearance
- Detour Length
- Traffic volumes

Bridge Improvement Options

- **Superstructure Replacement Options**
  - Steel beams with a concrete deck ⇒ Deep structure depth, clearance issues
  - Cast-In-Place Concrete Slab ⇒ Slow to Construct
  - **Precast-Prestressed Voided Slabs ⇒ Accelerate Schedule Advantages**
- **Bridge Rail Options**
  - Concrete Bridge Railing ⇒ Line of Site issues, Safety Concerns
  - **T4 Bridge Railing ⇒ Accelerate Schedule Advantages**
- **Substructure Options**
  - Do nothing ⇒ Deterioration, needs to be addressed
  - Complete replacement ⇒ Delays, Cost, Permits, ROW, Substructure still Viable
  - **Repair Existing Abutment ⇒ Existing Abutments are Stable & can be Rehabilitated**

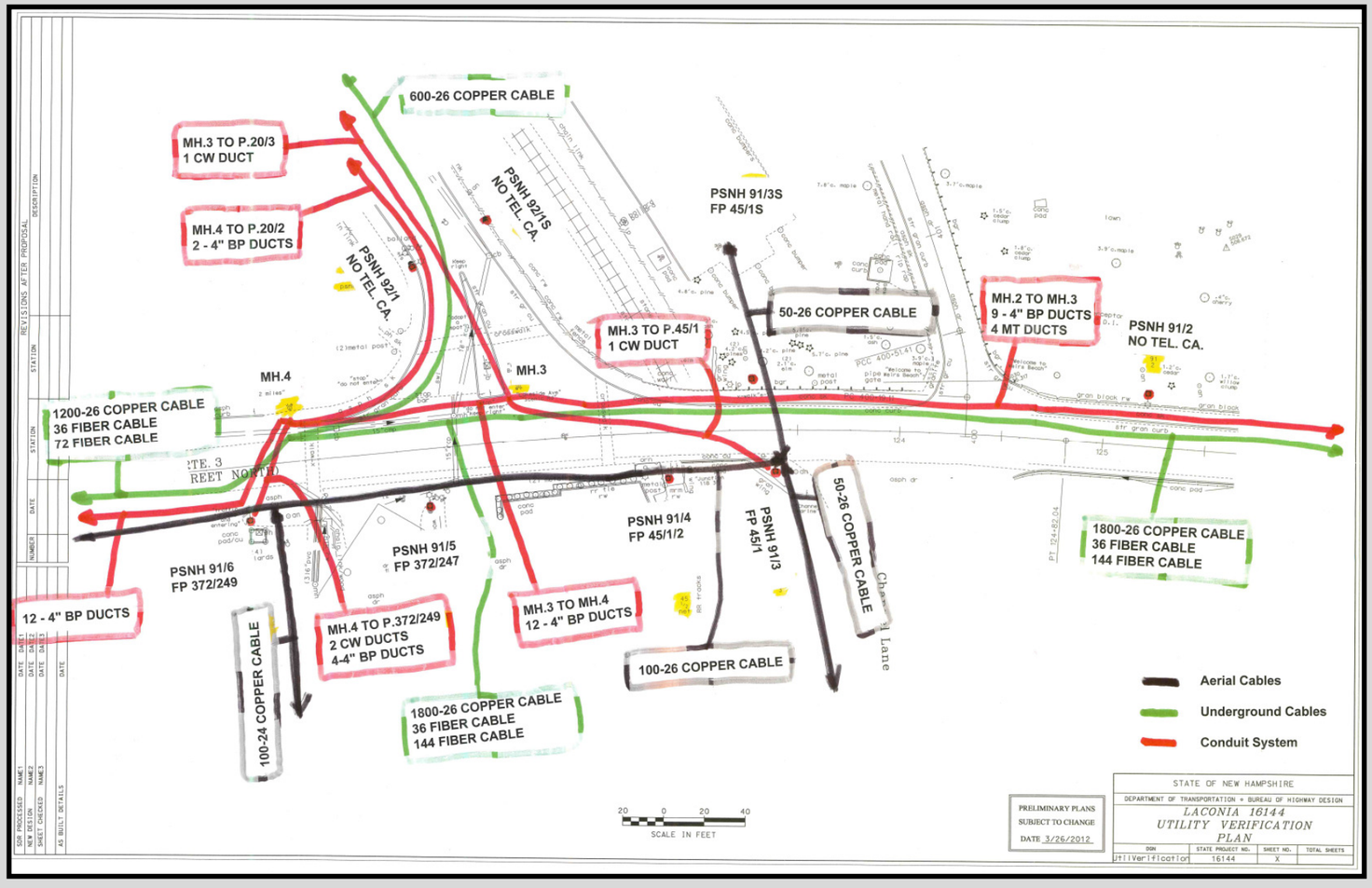
Bridge Improvement Option (Proposed Bridge)



Cast-In-Place (CIP) Very Similar

Utilities

- Public Service of NH
  - 3 phase 35KV
  - 2 - 3 phase 4KV
- Fair Point Communications
  - Nine 4” ducts in sidewalk
- Metrocast (CATV)
- Fire Alarm Tech
- Laconia Dept of Public Works (sewer)
- Gilford Gravity Sewer & Force Main



To be Resolved/Moved Prior to Bridge Construction

Cultural Resources

Historic Research is Ongoing

Natural Resources

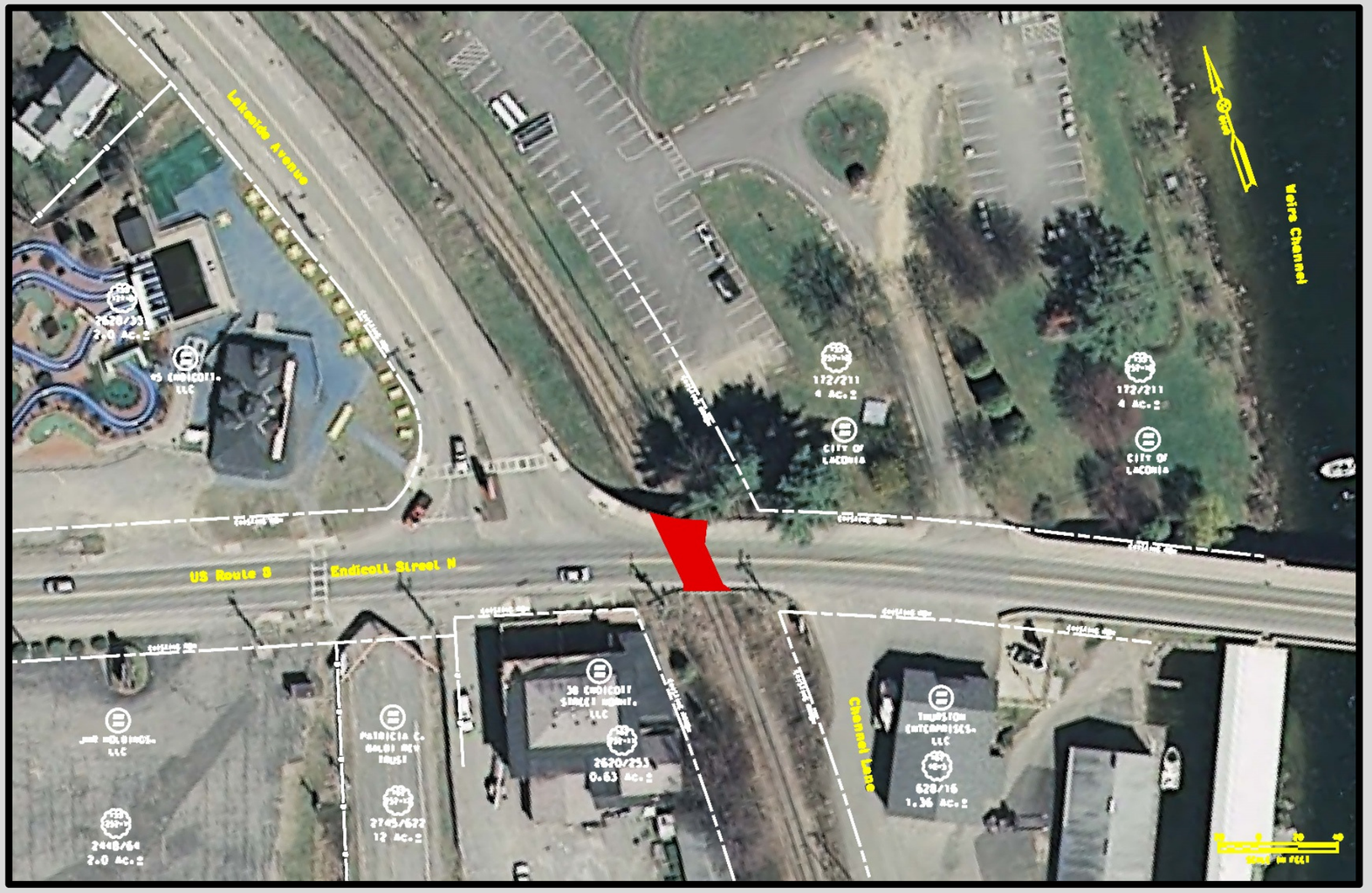
- Wetlands – (swale by railroad)

- Hazardous Material - (potential)
- Invasive Species - (present)
- Air and Noise - (no long-term impacts anticipated)

- Section 4(F) - (Endicott State Park) (Historic Properties, Public Parks, Fish & Waterfowl / Wildlife refuge)

- Section 6(F) - (Endicott State Park) (Property purchased with Federal Funds)

Right-of-Way & Abutters to Project



ROW currently under research

Temporary easements will likely be needed

Traffic Control - Two Alternatives

1. **Phased Construction:** Alternating One-Way with Temporary Signals

2. **Bridge Closure / Accelerated:** Detour Traffic

Traffic Control Alternative #1 (Phased Construction)

- **Alternating One-Lane two-directional traffic via Signal Control**
- **Difficult due to narrow width of Structure and Close Proximity of Intersections**
- **Estimated 120 day Construction Time due to Site Constraints and Building a Bridge in Three Phases**
- **Cost approximately 25% More Than Bridge Closure Option**

Traffic Control Alternative #1 (Phased Construction)

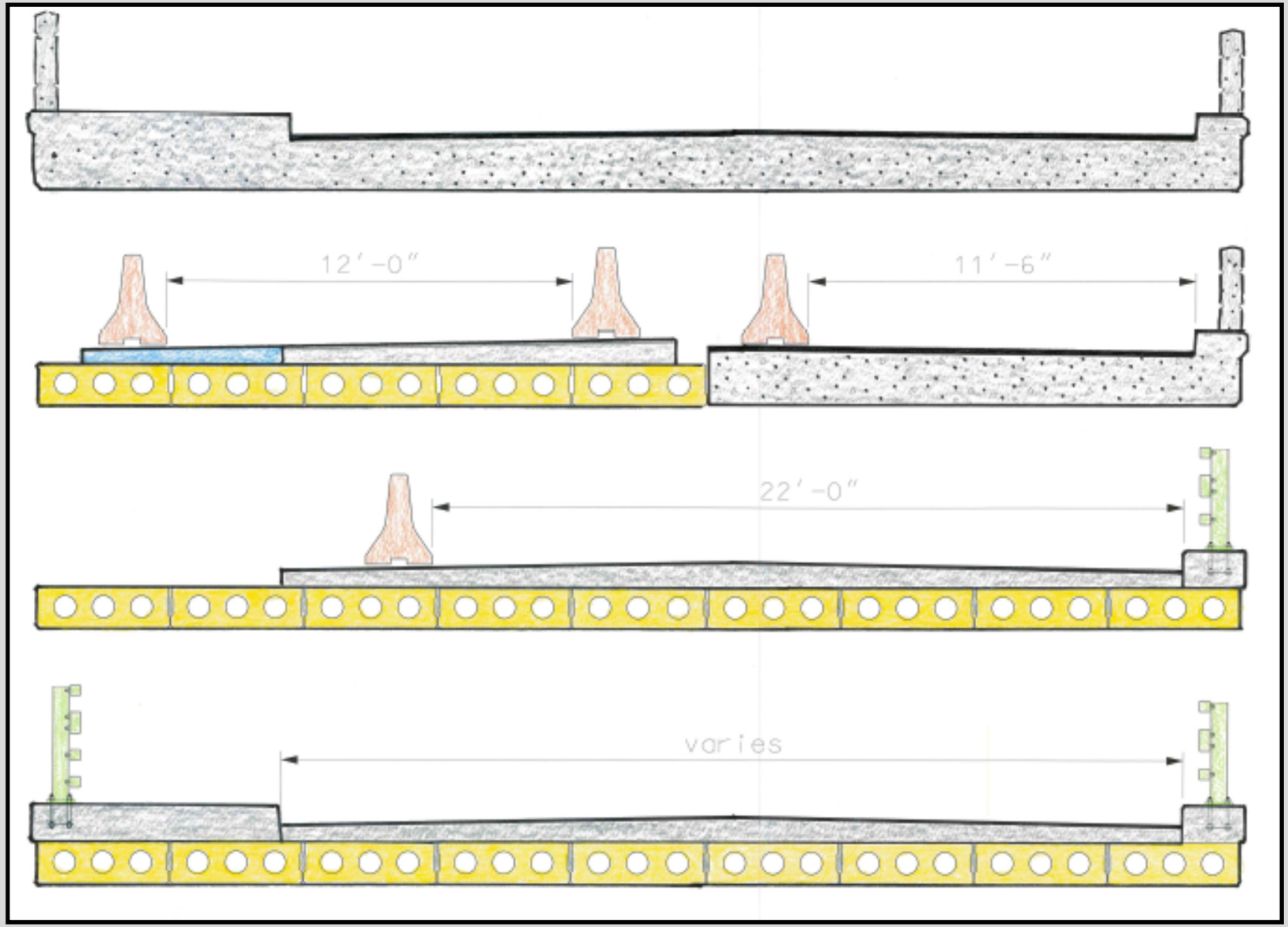
Existing

Phase 1

Phase 2

Phase 3

Final

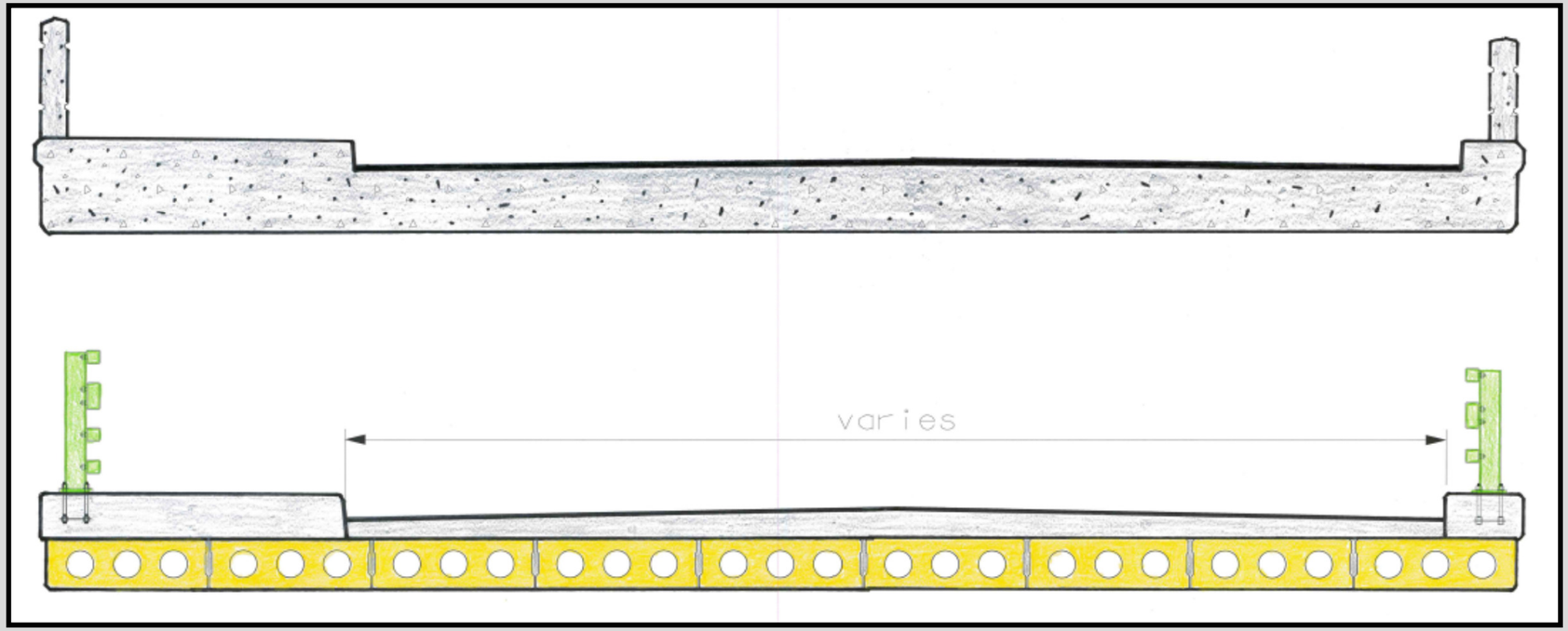


Traffic Control Alternative #2 (Closed/Accelerated Construction)

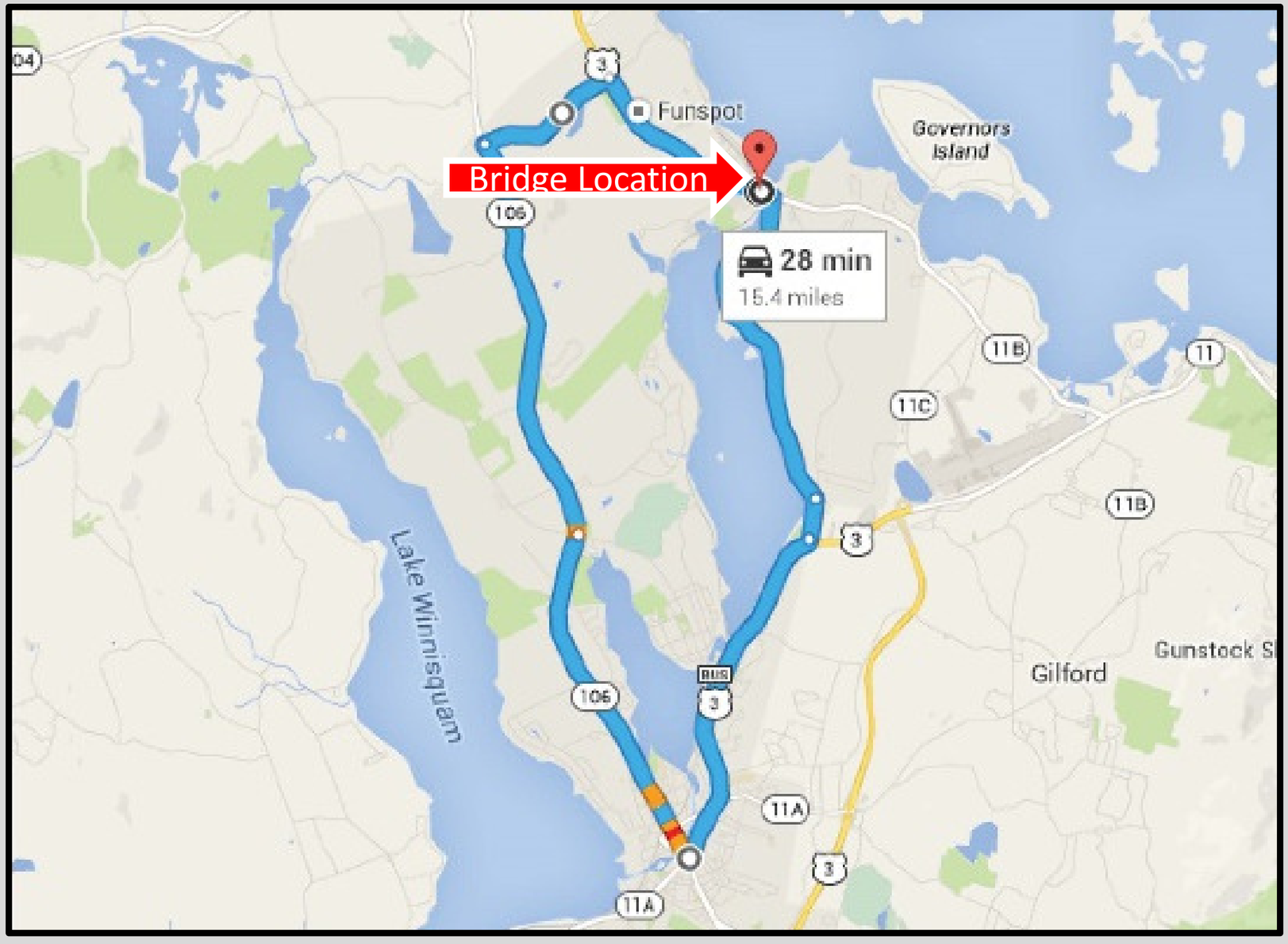
- **Accelerated Options**
- **Emergency Response Coordination Required**
- **30 Day (Accelerated) Construction Lengths (April timeframe?)**
- **Most Economical**
- **Accelerated Option Recommended**

Existing

New / Proposed



Traffic Control Alternative (Detour Route)



Potential Emergency Vehicle Response Route (Closed Option)

Hillard Rd & Channel Lane

Potential Emergency Vehicle Response Route (Closed Option)

Channel Lane Intersection

Hillard Rd Intersection

Non-public Access Rd

Next Steps and Schedule

- Incorporate City Officials & Public's comments
- Meet with City to review recommended solutions (Fall of 2015)
- Work with ROW, Cultural & Natural Resource Agencies
- Develop Contract Plans by End of 2016
- Advertise fall of 2019 (if funds are available)
- Construction fall of 2019 to spring 2020 (closure likely would be April)

- Estimated Construction Cost $1,500,000 based on Superstructure Replacement with Accelerated Construction and Bridge Closure

Concerns, Comments, & Questions

Your Input is Needed On

- Emergency Response Routes
- Mutual Aid from/to Adjacent Towns
- School Bus Routes
- Closure vs Phased Construction
- Time of Year for Closure (does April work?)
- Concerns with Historic Resources
- Tourism Concerns
- Post Office Access for Pedestrians
- Railing Treatment Along Wing Wall
- Other Concerns

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